

## Temperature Controlled Blue, Violet, & UV Diode Lasers

### 473, 440, 405, & 375nm Laser Diode Modules



#### Blue, Violet, and Ultraviolet Laser Modules at a Glance

Compact, versatile, and highly cost-effective, our blue, violet, and ultraviolet laser modules are ideal replacements for bulky, inefficient gas lasers. Most applications that use Argon-Ion, Helium Cadmium, and blue Nd:YAG lasers can take advantage of this newer, more efficient technology. Such applications include spectroscopy, laser-induced fluorescence, high-resolution printing, interferometry, microscopy, and medical diagnostic procedures.

To meet the demands of your application, we now offer a new 4mW blue module at  $473 \pm 5\text{nm}$  and a 16mW blue module at  $440 \pm 10\text{nm}$ . The low noise 473nm 4mW module is an ideal alternative to 473nm Nd:YAG lasers, while the 440nm 16mW unit is not only

four times more powerful than its predecessor, but it serves as an excellent replacement for HeCd lasers. Also available are our popular 25mW and 20mW violet ( $405 \pm 10\text{nm}$ ) units. Our 20mW violet module—11% more powerful than its predecessor—yields a circular beam that rivals that of large, expensive gas lasers. In addition, we now offer a new 8mW ultraviolet ( $375 \pm 5\text{nm}$ ) laser diode module.

Each of our blue, violet, and ultraviolet modules provides active temperature control. Modulated versions are also available. See the reverse side for additional information on each of these units. Please contact one of our sales engineers if you have any questions.

#### Available Wavelengths & Output Powers

- $473 \pm 5\text{nm}$ : 4mW
- $440 \pm 10\text{nm}$ : 16mW
- $405 \pm 10\text{nm}$ : 25mW, 20mW
- $375 \pm 5\text{nm}$ : 8mW
- Wavelength selection available

#### Features

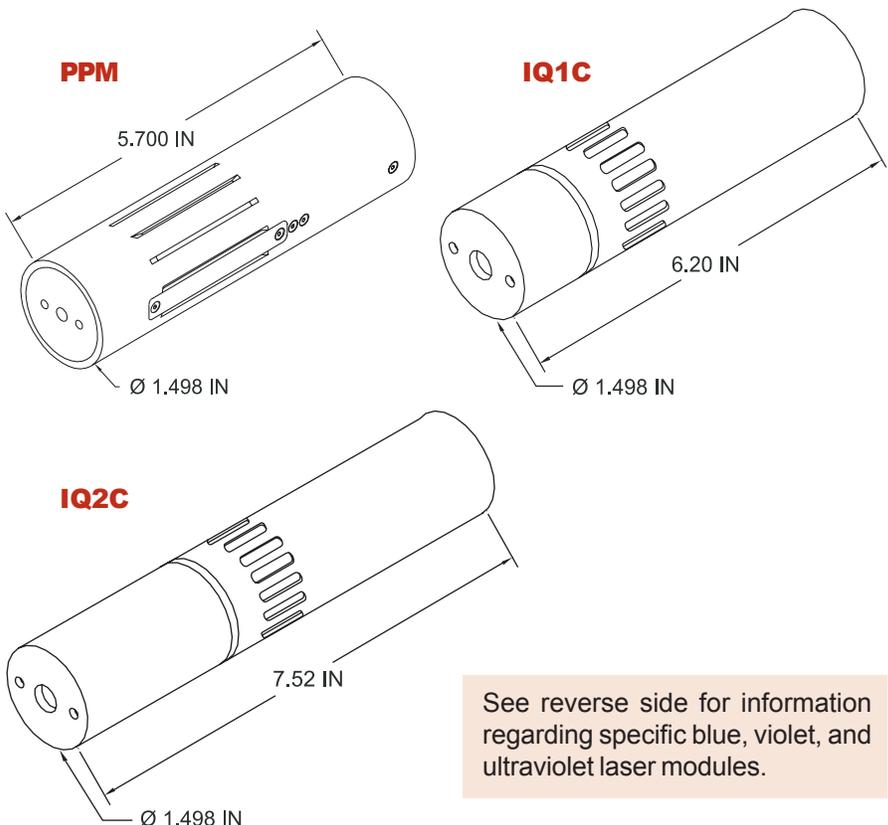
- Active temperature control
- Ultra-stable wavelengths
- Beam circularization available
- Adjustable focus
- Standard beam centering
- Optional beam expanding optics

#### Potential Applications

- Laser-induced fluorescence
- Spectroscopy
- Medical procedures
- High-resolution printing
- Interferometry
- Microscopy

#### Mechanical Dimensions

- PPM: 1.5 x 5.7" [38.1 x 144.8mm]
- IQ1C: 1.5 x 6.2" [38.1 x 157.5mm]
- IQ2C: 1.5 x 7.5" [38.1 x 191.0mm]



See reverse side for information regarding specific blue, violet, and ultraviolet laser modules.



# Blue, Violet, & UV Modules Temperature Controlled

## Blue, Violet, & Ultraviolet IQ Series Modules

For applications requiring blue, violet, or UV output and the ultimate in PTI temperature stability, our IQ series modules are available at  $473 \pm 5$ nm,  $440 \pm 10$ nm,  $405 \pm 10$ nm, and  $375 \pm 5$ nm. Our new 473nm 4mW module is an efficient, lower noise alternative to 473nm blue Nd:YAG lasers, while our 440nm 16mW unit is four times more powerful than its predecessor. Also available is our 405nm 25mW violet IQ module, as well as our 405nm 20mW IQ2C, which features beam circularization via anamorphic correcting prisms. In addition, we offer a 375nm 8mW ultraviolet IQ laser module.

Each of our IQ modules incorporates a precision current source and a PID temperature control loop, making them particularly suited for applications requiring stability of wavelength and output power. Each can operate in either constant current or automatic power control mode and is available with CW or modulated output. Beam circularization is also available.

## Violet PPM Modules

To address the needs of users of large, inefficient gas lasers, we also offer a temperature controlled violet PPM module. The PPM25(LD1432) yields up to 25mW of violet light at  $405 \pm 10$ nm. The module requires only 18W of power, compared to the hundreds of Watts consumed by the average gas laser. Also, the unit measures only 38mm x 144mm, whereas a typical gas laser is five or six times larger.

In addition, our violet PPM module offers exceptional wavelength stability. The unit has a temperature coefficient of only  $0.06\text{nm}/^\circ\text{C}$ , whereas an average red or infrared laser diode has a temperature coefficient of  $0.3\text{nm}/^\circ\text{C}$ . Also, the module's integrated thermoelectric cooler keeps the laser diode operating at  $20^\circ\text{C}$ , prolonging the life of the diode and further promoting wavelength stability.

Wavelength selection is available.

Specifications	IQ1C04 (LD1505)	IQ1C16 (LD1504)	IQ1C25 (LD1432)	PPM25 (LD1432)	IQ2C20 (LD1432)	IQ1C08 (LD1489)
Wavelength (nm)	$473 \pm 5$	$440 \pm 10$	$405 \pm 10$	$405 \pm 10$	$405 \pm 10$	$375 \pm 5$
Output Power (mW)	4	16	25	25	20	8
Operating Volt (VDC)	11 - 14	11 - 14	11 - 14	$12 \pm 1$	11 - 14	11 - 14
Max. Operating Current (mA)	3000	3000	3000	1350	1350	3000
Dimensions, $\varnothing \times L$ , in. / mm	1.5 x 6.2 / 38.1 x 157.5*	1.5 x 6.2 / 38.1 x 157.5*	1.5 x 6.2 / 38.1 x 157.5*	1.5 x 5.7 / 38.1 x 144.8	1.5 x 7.5 / 38.1 x 191.0	1.5 x 6.2 / 38.1 x 157.5*

\*IQ modules containing anamorphic prisms for beam correction are 7.5" [191.0mm] in length.



Note: Lasers with wavelengths below 400nm are Class IIIb products in accordance with CDRH regulations.

